

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (withdrawn) A fabrication device for use during the grinding operation of a product wafer having a first surface on which a plurality of conductive bumps are formed in a predetermined pattern and a second surface to which a grinding force is to be applied, said fabrication device comprising:

a. a socket plate having first and second surfaces; and
b. a plurality of cavities formed in said first surface of said socket plate that are arranged in the predetermined pattern and correspond in number with the plurality of conductive bumps formed on said first surface of said product plate.

2. (withdrawn) The fabrication device according to claim 1, wherein said plurality of cavities are defined by holes formed entirely through said socket plate.

3. (withdrawn) The fabrication device according to claim 1, wherein said plurality of cavities are defined by blind holes formed in said first surface of said socket plate.

4. (withdrawn) The fabrication device of claim 1, wherein said socket plate is composed of a metal plate.

5. (withdrawn) The fabrication device of claim 4, wherein said metal plate is composed of Molybdenum.

6. (withdrawn) The fabrication device according to claim 1, wherein said conductive bumps are of a predetermined height in the range of 50 - 100 um, and of a predetermined diameter in the range of 60 - 120 um in diameter, and said plurality of cavities are of a height in the range of 80 - 130 um, and of a predetermined diameter in the range of 90 - 150 um in diameter.

7. (currently amended) A method for thinning a product wafer having a first surface on which including a plurality of conductive bumps are formed in arranged in a first predetermined pattern and a second surface to which a grinding force is to be applied to effect the thinning, said method comprising the steps of:

a. forming ~~providing~~ a socket plate having ~~first and second surfaces and a~~ plurality of cavities formed therein ~~in~~ ~~said~~ first surface thereof that are ~~arranged in the~~ predetermined pattern and correspond in number with the plurality of conductive bumps formed ~~on~~ ~~said~~ first surface ~~of~~ ~~said~~ product wafer by;

providing ~~a base plate having a chemical vapor deposition layer thereon;~~
coating ~~said deposition layer with a positive resist material;~~
exposing ~~said resist material with a second pattern corresponding to said~~
first pattern;

etching ~~said deposition layer using said resist material as a mask;~~
removing ~~said resist material;~~

etching said base plate to form a plurality of cavities arranged in said

second pattern; and

removing said deposition layer;

- b. placing said product wafer in registry with said socket plate by so that each of said conductive bumps are inserted into a corresponding one of inserting said plurality of conductive bumps in corresponding ones of said plurality of cavities; and
- c. applying a grinding force to said second surface of said product wafer.

8. (original) The method for thinning a product wafer according to claim 7, further comprising the step of placing said socket plate on a vacuum chuck prior to placing said product wafer in registry with said socket plate.

9. (original) The method for thinning a product wafer according to claim 7, wherein said plurality of cavities are defined by holes formed entirely through said socket plate.

10. (original) The method for thinning a product wafer according to claim 7, wherein said plurality of cavities are defined by blind holes formed in said first surface of said socket plate.

11. (withdrawn) A system for performing the grinding operation in a wafer fabrication process, comprising:

- a. a product wafer having first and second surfaces and a plurality of conductive bumps formed on said first surface and arranged in a predetermined pattern; and

b. a socket plate having first and second surfaces and a plurality of cavities formed in said first surface thereof arranged in said predetermined pattern and corresponding in number with the number of said plurality of conductive bumps.

12. (withdrawn) The system for performing the grinding operation in a wafer fabrication process according to claim 11, wherein said plurality of cavities are defined by holes formed entirely through said socket plate.

13. (withdrawn) The fabrication device according to claim 11, wherein said plurality of cavities are defined by blind holes formed in said first surface of said socket plate.

14. (withdrawn) The fabrication device of claim 11, wherein said socket plate is composed of a metal plate.

15. (withdrawn) The fabrication device of claim 14, wherein said metal plate is composed of Molybdenum.

16. (withdrawn) The fabrication device according to claim 11, wherein said conductive bumps are of a predetermined height in the range of 50 - 100 um, and of a predetermined diameter in the range of 60 - 120 um in diameter, and said plurality of cavities are of a height in the range of 80 - 130 um, and of a predetermined diameter in the range of 90 - 150 um in diameter.

17. (withdrawn) A method for forming a socket wafer that is used in a process for thinning a product wafer that includes a first surface on which a plurality of conductive bumps are arranged in a predetermined pattern determined by a first mask, comprising the steps of:

- a. providing a plate of predetermined material having first and second opposing surfaces;
- b. coating said first surface of said plate with a CVD (chemical vapor deposition) oxide layer with a positive resist material;
- c. flipping said first mask from its orientation used to create said conductive bumps and placing it on said first surface of said plate in covering relation to said resist material;
- d. removing said resist material that is exposed through said first mask;
- e. removing said first mask from said plate;
- f. etching said CVD oxide layer using said resist material as a second mask to form a plurality of cavities in said plate; and
- g. removing the remainder of said resist material.

18. (withdrawn) The method according to claim 17, wherein said plurality of cavities are defined by holes formed entirely through said socket plate.

19. (withdrawn) The method according to claim 17, wherein said plurality of cavities are defined by blind holes formed in said first surface of said plate.

20. (withdrawn) The method according to claim 17, wherein said plate is composed of a predetermined metal.

21. (withdrawn) The method according to claim 20, wherein said metal plate is composed of Molybdenum.

22. (withdrawn) The method according to claim 17, wherein said conductive bumps are of a predetermined height in the range of 50 - 100 um, and of a predetermined diameter in the range of 60 - 120 um in diameter, and said plurality of cavities are of a height in the range of 80 - 130 um, and of a predetermined diameter in the range of 90 - 150 urn in diameter.